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ABSTRACT

A guide to the doctoral studies program in education is presented to lessen the difficulty students often have in interpreting directives about the program. Brief historical information on the doctorate and the dynamics of fund finding are considered. The following areas are addressed: general requirements for the doctorate; graduate school admissions procedures for the doctorate; procedures after admission; the graduate study program; the dissertation proposal; writing the dissertation; errors that are frequently made in dissertation research, data analysis, and writing; and defense of the dissertation. A chart outlining general criteria for the Ed.D. and Ph.D. degree, and information about the following are included: the Graduate Records Examination, foreign language requirements, letters of recommendation and selecting committee members, factors in selecting doctoral advisory committee members, and preparing for the written doctoral examination. (SW)

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BEYOND SURVIVAL
IN A DOCTORAL PROGRAM

A Guide for
Graduate and Doctoral Students
in Education

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January 2, 1980

Dear Reader:

Beyond Survival in a Doctoral Program: A Guide for Graduate and Doctoral Students in Education was written in an attempt to lessen the difficulty students often have in interpreting the double talk inherent in some of the directives which attempt to describe the doctoral studies program.

Although it is a practical guide for all doctoral students, preparing them for certain examinations and learning about the intricacies of research writing, it also offers several suggestions which may be especially useful to minorities and others interested in funding sources.

Should you, after reviewing this handbook, have comments write to: Joaquin Montemayor, Arizona State University, College of Education, Farmer Building 414, Tempe, Arizona 85281.

Additional copies may also be obtained by writing to the above address.

Sincerely,

J. Montemayor

Joaquin Montemayor

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We wish to thank Marjorie Cole for the assistance she provided in much of the editing and proofreading of this guide. Her experiential background helped us to refine some of the points we wished to make in the guide and for that we are most grateful.

INTRODUCTION

There seems to be no one book, guide, manual or text which best delineates and identifies the intricacies of the university graduate preparation process. Students manage to complete degree requirements by being directed, misdirected, guided and misguided in countless ways. It is no wonder that many express resentment at their professors and their universities whenever given the opportunity to evaluate their graduate experiences.

This guide is an attempt to lessen the difficulty students often have in interpreting the doubletalk inherent in some of the directives which attempt to describe the doctoral studies program. It does not replace, nor is it a substitute for, those dissertation guidelines which students must adhere to in their specific University departments. It is a supplement to these guidelines rather than any attempt to supplant them. The rationale for the development of this guide stemmed from written evaluations of a large number of doctoral students. Although doctoral degree programs are outlined in college catalogs, announcements, and brochures, often enough these are but sketchy versions of the total doctoral degree process.

The authors felt that there had been a rather cavalier attitude shown by a significant number of colleges and universities about a need to be more informative about the doctoral program. To be candid, the usual ways students learn about the hidden agenda of the doctoral program is by word of mouth, asking questions of other students, probing their professors,

reading whatever they can lay their hands on, and by fumbling through a program. In other words, learning as they go by first-hand experience, or trial and error.

This guide provides some help in selecting committee members who may best guide the student through the research study, and gives many suggestions on writing the research proposal and the dissertation. It attempts to inform the candidate on ways to prepare for oral and written examinations and makes several recommendations for avoiding mistakes which have been commonly made by other students.

This is a practical guide purposely written in non-esoteric language. It is meant for the student who is serious about succeeding in studies toward a doctoral degree and it does promise a different view from the traditional one presented by typical guides of this kind. Although it is a practical guide for all doctoral students, it offers several suggestions which may be especially useful to minorities and others who are interested in funding sources, preparing for certain examinations and learning about the intracacies of research writing.

CHAPTER ONE

BRIEF HISTORICAL BACKGROUND

The Doctorate

Schwitzer (1965) indicated that:

> ...The term doctor is derived from the Latin docere which means "to teach". Its essential and earliest meaning is simply "one who teaches". The same Latin root is found in other English words such as doctrine, docile (teachable), and endowment.

It is also recorded that the title was used by the Romans and the early church for those who taught in the catechetical schools. Throughout history the term has been used to signify scholarly endeavors and the title has been bestowed on those judged to be more informed and knowledgeable about the problems and issues of the day.

A great number of students complete the doctorate annually and the numbers appear to be on the increase despite gradual declining enrollments and surpluses found in various fields. According to Schwitzer:

> ...These degrees have been in a wide variety of disciplines including the natural sciences, the arts, the humanities, medicine, theology, education, dentistry, veterinary medicine, and many others.

From all predictions, the number of persons attaining the doctoral degree will continue to increase, at least into the foreseeable future, and the number of minorities are likely to be represented in this increase. Some social scientists say that an increase in unemployment and a recession bring about an increase in University enrollment.

The Doctorate in the United States

The first doctorates, according to Schwitzer, were awarded to three persons at Yale in 1861. Other universities awarding the Ph.D. degree in the 1800's were New York University, 1866; University of Pennsylvania, 1871; Cornell University, 1872; Harvard University in 1873, and others.

The first Ph.D. in education was granted by Clark University in 1892, and in 1921, the first Doctor of Education Degree (Ed.D.) was awarded by Harvard University.

Professional Usage

In most colleges and universities the majority of the teaching personnel, researchers and administrators hold the doctorate. Those most represented in university settings are Ph.D., Ed.D., M.D., D.D.S., D.V.M. and others. This terminal or maximal degree entitles the use of doctor (Dr.) in formal communications or the initials, signifying the degree, at the end of one's name. As an example, Dr. Juan R. Rodriguez or Robert Jones, Ph.D.

Schwitzer (p.56) stated:

> ...Examination of the usage of doctoral degree designations and titles in countries other than the United States reveals that most all persons holding doctoral degrees are addressed both professionally and socially as Doctor. Many practitioners of medicine in a number of countries do not hold doctoral degrees; however are addressed as Doctor.

Some Reasons Given for Seeking the Doctorate

--A need for recognition and status-seeking

--Provides a bridge for higher status positions

--Provides personal security through higher credentials

--A means for providing more prestige to the individual

--Required for advanced professional careers

--A means for expediting services to subordinates and clients in a chosen field

--A means for promulgating a role-model effect on youth and others

--An opportunity to do scholarly work beyond the masters degree

--An interest in researching an area of particular interest

Because it is difficult to measure subsurface or subconscious behavior, the motives may go beyond those listed above. The purpose here is merely to entertain some observable reasons why some persons seek the doctoral degree, and there may well be other reasons much more difficult to discern.

CHAPTER TWO

THE DYNAMICS OF FUND FINDING

The Pendulum of Conservatism

Few of us have to be convinced that our national mood (philosophical, attitudinal and financial) has become more conservative in the previous three to five years. What effect this will have on us all is hard to predict. Several questions which are worthy of consideration are: Will the institutions meet the emerging needs of the financially disadvantaged and others who wish to pursue doctoral degrees? How about limited funding to universities for stipends, and fellowships? Will the present state of conservatism become more acute as it seems to bear out through the passage of such propositions as 13 in California, and through the increasing concern for energy conservation and the accelerated rate of inflation?

A View with Optimism

Although the obvious point of "tight money" has been made, there is no reason for complete despair. One must accept the idea that capable students should be able to find a variety of ways to prepare themselves for advanced academic work. One way is to plan early. Since financial ability is often a barrier in achieving most of one's goals, it stands to reason that students will want to begin early in their post bachelor s careers to investigate the possibility for funding sources. This, in light of what has been said above, will be difficult if the student cannot demonstrate high scholastic achievement. Since funds will be scarce they will more likely go to the better qualified students.

Where to Look?

As the saying goes, "You may find it in your own back yard." You must become an incessant communicator. You must probe and you must question. This means that you proceed to investigate in a professional way. As you know, people do not generally accept the pushy type or the over-assertive individual who demands to be helped; so use your sense of tact, but be insistent.

Universities generally receive large sums of research grants for a galaxy of purposes, and in these grants there are generally monies earmarked for research assistants, helpers, and work-study help. These ought to be pursued through professors you meet and friends who may give you tips on this kind of information. The National Science Foundation and other Endowments are often located in the Research and Grantsmanship Divisions of large universities; you can search these funding possibilities at your leisure. You should contact your financial aids officer and Deans of your colleges to ask about other funding sources and scholarships. Ethnic Studies programs are concerned with this kind of information, and guidance and career development centers may help you to sources not listed by other agencies. In addition to the above, there are social and civic organizations you should contact whenever you hear of funding opportunities. You must persist and not become discouraged. Ask, ask, ask.

Becoming a Doer

It must be emphasized that you become a doer, a seeker and a pursuer, but again, you must do all this with a sense of diplomacy. The truth of the matter is that people, local organizations, federal agencies, and financial aids officers will seldom come to you regardless of your scholastic genius or

need. You must begin early in the game of "fund searching", for "the early bird most often catches the worm." Discuss your plans with advisors, friends, colleagues, counselors, politicians, professors, students and others. You never know which one will have the big lead or have the key to some funding base. As we say in the vernacular, many jobs like scholarships and other funding sources, may be "wired in"; that is, they are allotted to those who have taken some action, made some advance contacts, or initial efforts to expose themselves to those in decision-making positions.

Some may argue that this is not so. But it is better that you do not sleep and hope while others are making their contacts and possibly opening doors through inquiry, exposure and prudent exploration.

CHAPTER THREE

GENERAL REQUIREMENTS FOR THE DOCTORATE

Introduction

The Ph.D., the Ed.D., M.D. and other earned degrees are the marks of a highly trained technician or scholar. The title is indicative of one who has demonstrated a high ability to conduct original research or has acquired a high level competency. The degree has become the mark of advanced professional preparation in many positions in government, industry, religion, medicine, education and other fields. It is for this reason that degree requirements are quite rigorous, exacting and precise.

The Doctorate Time-Frame

A total of three to five years of study beyond the bachelor's degree is ordinarily required to attain the doctoral degree. The specific time-frame is contingent on the nature of one's study or research endeavor. Often a master's degree is acquired in the process, although this is not always necessary. The official program of study, which must generally be approved by the student's doctoral committee, often takes one to two years to complete, depending on the class load each candidate is willing or able to handle.

Examinations

A qualifying examination is generally required along with a written comprehensive examination over all course work in the special field of interest. A reading knowledge of two languages is also a general require-

ment for the Ph.D.; however, there are several options which may satisfy these requirements among the various universities. A research project or dissertation, considered by many to be the most scholarly exercise for the student, is a universal requirement in traditional institutions of higher learning.

The Ed.D. and Ph.D.

The Ed.D. is an earned research doctorate that has received extensive recognition in education and related fields. This degree represents professional preparation for positions in education and service-related disciplines. Applied research is considered the locus or central requisite of this degree for it was originally designed to address those problems or issues in the field not being resolved by basic or pure research efforts. That is to say, research for the sake of knowledge attainment and theory development has been the thrust of Ph.D. efforts, whereas the Ed.D. is more concerned with solving practical problems. This particular distinction is often very difficult to discern and one who reads research papers may find it difficult to tell whether the research is applied or basic. More often than not, the real distinguishing characteristic between the Ph.D. and the Ed.D. is the foreign language requirement(s), with few other minor differences.

It is not uncommon that this point is brought up in faculty meetings and provides continuous fuel to the fires which persist about the distinctions between the above two degrees.

Alternatives to the Doctorate

Phyllips (1976) observed:

> ...During recent years much has been written, discussed, and theorized about the new open, or 'external' colleges and universities without walls.

These non-traditional options for acquiring the doctorate have always been attractive to the "quick deal artists" who either wished to circumvent the rigors of doctoral course work or didn't have the academic or intellectual aptitude to enter or survive through a traditional program. The schools without walls concept may also have a strong appeal to marginal students who have been denied admittance to doctoral programs, either because of rigorous or discriminatory admittance policies. These non-traditional institutions should be avoided in light of their low credibility and limited acceptance among the majority of hiring institutions.

Occasionally, when there is no other criterion to consider, a potential employee may be selected on the basis of the institution where he or she graduated. Again it is urged that students avoid the non-traditional route for the reasons stated above. Another reason for the non-acceptability of these non-traditional approaches is that the academic community perceives these degrees as "too visionary." Not too long ago, Graham, writing in an issue of Phi Delta Kappa (March 1976) presented an article which viewed and commented on the alternative doctorate offered by Walden University. Graham reported that no written or oral examination was required at any time from matriculation through graduation. The doctorate, according to Graham, is awarded when the dissertation is approved by the advisor, two readers appointed by the university and a university official.

Implications

Such criteria for satisfying requirements can be advantageous or detrimental depending on the changing tide of opinion of the degree-offering institution. One day, for example, requirements may be flexible and reasonably negotiable, and the next day they may become rigorous and stringent

as a result of pressure group action, financial, or other political factors. The student who finds himself/herself "in the middle" as it were, can be the recipient of much despair, loss of time, energy and money.

The point of this discussion is that one serves himself/herself best by avoiding the so-called "diploma mills" and should work toward achieving the doctorate through accredited colleges and universities. These yield considerably more returns in terms of accreditation, recognition, credibility and assurance that the degree will be honored by a larger number of employers and hiring institutions.

General Criteria for Degree Requirements

Flores (1973), one of the authors, conducted a study of 14 major universities throughout the United States and investigated their specific requirements for the Masters, Educational Specialist and Doctoral Degrees (Ph.D. and Ed.D.). The following was found to be a list of requirements for the doctorate in the field of education among the 14 universities:

1. The number of hours required beyond the bachelor's degree generally ranged from 78 to 94; however, could be more depending on the individual's program.
2. The GRE (Graduate Records Examination) and the Miller Analogy were the two most common tests required for entrance into the doctoral program.
3. A grade point average of 3.25 or better was required by all the universities surveyed.
4. Approximately 30 to 36 hours were required in the field of specialization (major), and 15 to 20 hours were required in the minor field; while approximately 18 hours of dissertation was a common requirement.

5. An oral qualifying examination was usually required before admittance into the doctoral program.
6. Residency requirements of one year were mandated at all 14 universities.
7. Admission to candidacy was contingent on a series of course activities and requirements, such as 1) having completed all doctoral course work, 2) satisfactorily having passed a written comprehensive examination (often referred to as a preliminary examination), 3) an oral examination following the written exam, and 4) the submission of a research proposal.

Figure 1 (page 14) provides a breakdown of these requirements. It is interesting to note in 1972 the conformity of requirements of 14 major universities extending from Florida to Oregon, and how the literature supports that these requirements for the doctorate have changed very little within the last five to eight years. This view is made in light of the concerted effort exerted in the 60's to change our institutions. The criteria set forth above and in Figure 1 will be treated in more detail in subsequent sections of this guide.

Figure 1

GENERAL CRITERIA FOR DEGREE REQUIREMENTS

Requirements	Ed.D.	Ph.D.
Application for admission	Application is made to appropriate Department with the approval of the Graduate College of the University.	
Number of semester hours	78-90 or more	78-90 or more
Residency requirements	One year	One year
Degrees and Previous Experience	Master's degree with 2 to 3 years of previous experience seldom subject to waiver; however, possible in special cases.	
Maximum time limit for completing the degree	Six to seven years	
Grade Point Average	3.25 or better	3.25 or better
GRE, Miller Analogy, etc.	Satisfactory performance (no uniformity in test scores)	
Preliminary or Comprehensive Examination & Oral	Required	Required
Written Research Proposal	Required	Required
Written Dissertation	Required	Required
Dissertation Defense	Required	Required

CHAPTER FOUR

GRADUATE SCHOOL ADMISSIONS PROCEDURES FOR THE DOCTORATE

The Admissions Process

The admissions process is often a perplexing and onerous one for the graduate student. There are admission deadlines, countless forms to fill out, advisors to consult and various other amenities to satisfy. All of this may appear to be idle rhetoric to those who argue that universities do provide guidelines, college catalogs and brochures do help keep the student informed. The problem, however, is that these documents are not always current. Mandates from state certifying agencies, pressures to update and revise curricula, and numerous other university policies may be reasons for changing the requirements and schedules on short notice. Since it is rare that university catalogs are revised every year, the student must not rely solely on the printed word. It is not uncommon that a student is told, "Well, we had to change this or that, and you should have checked it out with the Department!" In the hope of not being too negative on this point, we are simply trying to encourage each student to double check available sources of information and verify them always for updatedness. This should avoid many problems.

The Graduate Records Examination

Examinations generally arouse a modicum of fear, even to the most robust student, whether he be minority, Anglo or what-have-you. The Graduate Records Examination (GRE) is perhaps the most common among those administered to

doctoral aspirants to determine their eligibility to enter a doctoral program; however, it is only one among several criteria. While the GRE results should reflect satisfactory performance, other factors are often taken into consideration which may weigh as much in selecting candidates for the program. You must be reminded that these other factors must indicate a proficiency to articulate, calculate, write, perceive and use reason and logic. As a rule, doctoral committees will look to see whether the potential candidate possesses high verbal skills, has demonstrated a capacity to write well or conduct research, has proven himself/herself in the world of work, has a reasonably high grade-point average and an ability to provide sound, rational answers to questions.

According to the American Association of Colleges for Teacher Education (1960, p.75) a profile of admission requirements revealed that two standardized admissions examinations were used in most universities to select doctoral candidates. These were the Miller Analogy and the GRE Aptitude. Others were a locally constructed battery, the GRE Advanced in the subject matter field, and forms of the Cooperative English Test. Although the above source is quite outdated, a non-empirical assessment would indicate that these tests remain commonplace today. Candidates must expect examinations in their special field of interest as well as the GRE or Miller Analogy.

Study Aids and Sources

There have been several studies (such as the Eight Year Study) which indicated that high school grades were as likely to predict college success as any battery of standardized tests (SAT, ACT, etc.)

Students should be aware that there are several aids available which may be quite helpful in preparing for a particular examination. For example,

there are study guides for the Advanced GRE and the Miller Analogy which one can purchase at most large universities. When not in stock, these can usually be ordered without too much delay. These study guides do little to improve a student's scholastic or academic aptitude, although they do provide a basic orientation about the nature of the tests to be taken. In these tests the student may become familiar with the kinds of test questions that are expected, the instructions for their completion, the time-frames required for several sections, and the general format of the examination. All these clues do help to lessen the degree of anxiety, and can engender a sense of security which everyone needs when taking a test. Practice in taking the sub-tests aid the student in synchronizing speed and timing to coincide with time limits of the different sections (time being of the essence in these tests). Students who have problems in test-taking should read a book or two on this art. These are also readily available in most university libraries and bookstores.

Some researchers estimate that the mere idea of knowing something in advance of a test can improve test results from 10 to 20 points on a long examination. One of the authors personally found the Miller Analogy Study Guide very useful in this respect, for it reduces the time one must spend reading the initial directions, and improves pacing. Being that one can become accustomed to the patterns of questions to be found in the test, it is likely that directions can be read rather quickly and not consume so much of the student's valuable time. Again, these guides cannot provide any miracles. The point is that they do help your chances of passing a test.

Foreign Language Requirements

Most Ph.D. programs require at least one foreign language and often two. There are several alternatives, however, in many universities, for satisfying the language requirement and much debate continues in the university community about its need, use and relevance. Berelson (1960, p. 196) remarked:

> ...Somewhere in this country today, another faculty committee is drawing up another report on the foreign language requirement for the doctorate.

One of the authors, having served as a faculty member in two large universities, knows that this observation by Berelson was prevalent at the time this guide was being written.

In the early decades of the century, the language requirements for the doctoral degree were generally French and German. Since the 1930's, several institutions have allowed other languages to meet this requirement. Some universities allow the student to fulfill the language requirement by taking additional courses in the subject-matter field, providing these courses help in enhancing expertise and knowledge in the field of interest. Often these courses may also be directed at improving special computer analysis or research skills.

The Foreign Language Debate

The foreign language requirement, as mentioned above, continues. It is not unusual that many "feathers continue to be ruffled", and faculty members are pitted against one another in many college department meetings. Part of the debate is based on egocentric motives of faculty members who insist on maintaining the traditions of the past. Some perceive the omission of the language requirement as tantamount to giving the Ph.D. degree away; others, not so excitable, believe it is a "watering down" of the program.

In the past the language requirement was thought to provide the scholar with a competency or skill to read and interpret the literature in the field of interest. Many journals and treatises were written in French or German, as we have said; however, this is no longer the case. Since most of the literature in one's field is now available in the English language, it seems archaic to hold on to an idea which has long outlived its purpose. This is merely another example of how institutions tenaciously maintain the status quo, refusing to change their methods and ideas no matter how much sense it makes to do so.

Berelson (1960) found some interesting data on this subject (p. 196). The following is in reference to a survey in which he asked Deans of graduate faculty to provide answers to two categories of questions: "Two justifications are usually given for the foreign language requirement for the doctorate."

> ...1) the cultural justification that foreign languages are needed as a mark of the educated man; and 2) the professional justification that the languages are needed as a tool for research in the discipline. Which justification seems more important to you?

The following chart depicts the several responses by the Deans and their faculties (p. 197):

	Professional	Cultural	Both	Can't Say
Graduate Deans	31%	14	51	4
Graduate faculty	43%	17	35	5
Physical Sciences	58%	6	34	2
Biological Sciences	50%	6	42	2
Social Sciences	37%	24	31	8
Humanities	30%	17	51	2
Engineering	52%	13	29	6
Education	29%	29	25	17
Top 12 universities	51%	14	30	5
Other AGS univs.	43%	16	37	4
Other universities	36%	20	36	8

Berelson produced another piece of information regarding the number of recipients claiming to have used the foreign language(s) in graduate training, in preparing the dissertation, or in subsequent professional work.

	Proportion of cases
Chemistry	85
Zoology	84
Biology	77
Math & statistics	75
Religion	75
Music	74
Botany	71
English	63
Philosophy	63
Physics	62
History	62
Geology	57
Engineering	54
Political Science	52
Sociology	33
Agriculture	29
Economics	19
Psychology	17
Education	10

As one wonders about the above percentages, one cannot help but question the high recorded need to use a foreign language in such fields as mathematics, music, botany and English in professional work. The better question is not whether a foreign language was used, but rather how much is the language essential to the field?

Letters of Recommendation and Selecting Committee Members

One of the several criteria for being admitted to a doctoral program is providing appropriate letters of recommendation. This may appear to be an item of little importance, but imagine, if you will, the following situation which many students face as they pursue their

academic careers. Students, by and large, are busy people who go about their business accomplishing their work, completing their assignments, studying for exams and writing term papers of one kind or another. While all these energies are being expended, many students do not pause long enough to strike up an acquaintance with any particular professor or faculty member. This may lead to a problem when required to submit letters of recommendation to doctoral committees, Departments and Graduate Colleges. They find themselves with no sponsors. Unless you have made some special effort to acquaint yourself with several faculty members, it will be difficult for you to summon the right persons required to serve on your doctoral committee and assist you in your dissertation. This is important, for most professors are reluctant to accept a doctoral student whom they know virtually little or nothing about. It is not merely enough to take a course from a professor to assume that the professor knows the student, especially so if classes are large.

Rather than dwell on this point, what are the consequences of all this when the student must approach professors for letters of recommendation? What does it mean when the student must select a chairman for his/her doctoral committee? Perhaps these are moot questions to many students, but the urgency of importance cannot be overstated. These are the political considerations which are part of getting through a doctoral program and they often tip the scales of opportunity one way or the other for the student. The point of this discussion is that the student should take the initiative at the onset of his or her Master's program, to open up the avenues of communication with faculty and staff in the department where post-graduate work is anticipated. This can take the form of informal chats which can become more formal as the need arises. Appoint-

ments to discuss course work or assignments may be one way of letting the instructor know more about your views, interests and philosophy. It is not at all inappropriate for the student to make formal appointments for the purpose of advice, guidance and counsel; and all these contacts help the student and the professor to learn more about each other. You must temper this with some forethought so it doesn't appear that you are merely apple polishing and politicking. In other words, use discretion.

Letters: What Kinds?

One particular mistake students make in providing letters of recommendation to interested parties is that they are too restricted to one area or discipline. Faculty members are considerably more impressed with recommendations which come from a cross section of disciplines, as well as from one's major field. One reason is that this is often the first impression a committee may have on the candidate being considered, and first impressions are lasting. It looks much more impressive if the student shows diversity. For example, three letters of recommendation from one's major department in psychology would not be as impressive as a letter from psychology, one from sociology, and one, let's say, from modern languages.

Other Criteria for Admission

Additional criteria for admission are generally specified in university catalogs and other guidelines. Most universities will, in addition to letters of recommendation, require official transcripts of coursework and grades, evidence of prior experience, specific personal data, some evidence of writing or research skills or some philosophical statements written by the prospective candidate.

The above are the general criteria required of the doctoral student before any action is taken by a departmental committee. A neatly prepared vita or resume (if required) is imperative, and by all means should be free of grammatical and spelling errors. Mark Twain is quoted as saying, "It usually takes more than three weeks to prepare a good impromptu speech." Your ability to persuade a faculty committee, using the above advice, is contingent on proper wording, adequate syntax, use of proper grammar and correct spelling. Do not defeat your chances by submitting personal data and statements of philosophy which have not been proofread, have many typing errors and are neither neat nor well prepared. Avoid submitting material in your own handwriting unless specifically called for. To do so implies hastiness, lack of concern, and even apathy. Remember, Daniel Webster said, "The world is governed more by appearances than by realities."

CHAPTER FIVE

PROCEDURES AFTER ADMISSION

Problems

There are several reasons why some doctoral candidates do not succeed in a doctoral program. A number of these have been suggested, but one overriding problem is communications. Specifically, the student often fails to exercise certain initiative, say the right things, do the right things and contact the right people. Often there are walls that come between the student and one or more members of his/her committee, but it is quite correct to say that this is not common practice. The authors are of the opinion that once you are accepted into a doctoral program by a departmental committee, there is no deliberate attempt to make you fail, although it does happen in isolated cases. Besides, one can never fully measure the degree of commitment and determination of the student which could be the possible cause of failure.

When You Are Admitted, Then What?

After being admitted to full graduate standing you must get to the business of selecting an advisory committee. As mentioned, this groundwork should have been laid long in advance. In other words, your homework should have been done, and by now you are familiar with several faculty members you may wish to consider for your doctoral advisory committee.

Selecting Your Advisory Committee Chairperson

You must now come to grips with selecting a chairperson for your committee. This is the person who will guide, counsel and direct you through the doctoral study. He/she will support you or not support you, encourage you or not encourage you, and in the final analysis, will make you or break you. However simplistic this may seem, there are several things you might consider when selecting your committee chairperson. These are:

1. Does the professor appear to have the time? If the professor infers or suggests that he/she is "swamped" with work, this may signal more than what is in the surface message.
2. Is the professor respected and influential among his/her peers? This is a qualifiable variable; however, the student who is a good listener and a good perceiver of human behavior can tell whether the professor is respected among other colleagues. This has some payoff for you since it will be much easier for channels of communication to remain open if your committee members get along well with each other.
3. Does the professor show an interest in your research topic? It is advisable that, if the professor shows disinterest in the topic you have in mind, you reconsider him/her for someone else.
4. Does the professor have a background or expertise in the topic you are considering for a dissertation topic? Since you will need direction, counsel and assistance in a research project of scholarly proportions, your chairperson should know the topic area well enough to give you the needed guidance and direction.

Common sense should dictate that it is not always possible to meet all criteria one looks for in people, so take these suggestions as guidelines and

have them serve you as well as possible. The same criteria should be considered when selecting other members of your committee.

Other Variables/Factors in Selecting Advisory Committee Members

There are many variables, both covert and overt, which may prescribe the best method for selecting an advisory committee. It is not a matter to be taken lightly. Many students, in their haste to get started on their doctoral programs, make the mistake of selecting committee members at random without considering the several human dynamics which apply to persons in group situations.

If it happens that a particular candidate is extremely attractive to a college department, it may not be necessary to consider all the suggestions which will be presented in selecting an advisory committee; however, these are rare and unusual occasions. We can be quite sure a university professor may often regard his time as exceedingly valuable and may look at a candidate as a hindrance in meeting his/her personal objectives. A professor may also want to use the candidate in projects which will enhance his/her status or work. Unfair as this may appear, the truth of the matter is that professors are not overjoyed at the prospect of having to "take on" another doctoral candidate. The work is tedious, time-consuming and may be extremely frustrating, especially if a candidate does not appear to be goal-oriented and well motivated. If the student is not well organized and not clear about the dissertation study, it may compound the problem for the advisor. In addition, professors reap few returns by overloading themselves with doctoral candidates, since research and publishing are the essential criteria for promotion and tenure in most universities.

It has been known that a candidate may ask a professor to serve as a committee member, and the professor may agree to serve even though he feels that the candidate does not meet the standards for a doctoral candidate. The reasons for accepting may be that the professor has a limited knowledge of the candidate's potential, or such perceptions may be skewed by others' misinterpretations. Then, too, the student may not really project, communicate and articulate well enough to convince the professor. The point to be stressed here is that the candidate must use all his/her powers of perception, observation, insight and evaluation to select committee members. It is imperative that a candidate have a supportive committee and one must consider whether committee members agree to serve

--because they genuinely wish to serve and assist the student.

--because they do not want to lose face with other students.

--because they don't want to be accused of prejudice and discrimination.

--because they must be seen as workers and not "sluffers" in their departments.

--because they are genuinely concerned.

--because they see an opportunity to enhance their own personal or research interests.

If some of the negative circumstances cited above do exist, the candidate is the one generally caught in the middle. It is for this reason that much ado has been made on this point. It is one aspect of the politics not often recognized by the student until he/she is in the doctoral program, and often not well explained.

Further Considerations in Selecting One's Doctoral Advisory Committee

There is no pat answer on how one avoids all the pitfalls which have been pointed out above, or how one can fully protect himself from all possible

problems. Some recommendations are offered:

1. Watch for possible non-verbal clues a faculty member may project about your dissertation topic in informal conversations. Professors, like anyone else, have their preferences and prejudices, and you may be able to identify these if you are observant. For example, let's say you are interested in a dissertation topic which may be rather controversial in nature, and the professor manifests contrasting views. You may be smart not to seek his/her participation if such feelings are quite discernible.
2. Ask the professor to deal with you honestly. Several motives have been mentioned as to why a professor may agree to serve on your committee, some of which may be self-serving. Often a professor may be honest and say he/she doesn't want to serve on your committee for whatever reason, but human nature being what it is, few will find the fortitude or "guts" to tell you outright.
3. Talk to students in the program. Students who are about to finish their doctoral programs may be willing to offer you valuable input on how a certain professor actually behaves in advisory committee situations. The reason this point is brought up is that the candidate can seldom know, by classroom behavior, how a professor will act in committee situations. It is not unusual for a professor to seem very amiable in vis-a-vis settings, but to become acrimonious in committee meetings. These things you may never know until it is too late, or, as they say, until you are "under the gun." In some respects other students can be of help to you. Ask them to provide you an honest evaluation of professors you may wish to consider for your committee.

4. Be somewhat cautious of the faculty member who appears overly enthusiastic about having you as his/her "disciple". One cannot tell whether such fervor may have selfish or patronizing motives, whether you are being set up as a "token" candidate, or whether you are the answer to the professor's long-awaited research prayer. Whichever the case, be somewhat careful of the extremely interested faculty member. One word of caution -- it is conceivable that the student may become a skeptic and completely cynical in questioning every behavior as having an ulterior motive. The authors recognize the danger in this and advise the student to use good judgment. This kind of over-vigilance is not healthy and must be tempered with tact, sensibility and discretion. The main point is that these agenda items are seldom addressed in traditional books and the doctoral candidate must often find them out at his/her own expense.
5. Once you have decided on a chairperson, it may be wise to ask the chairperson which faculty members seem to work well with him/her, or which members seem more amenable to your research study.
6. Elicit the responses of former Ph.D.'s and Ed.D.'s who are no longer under the wing of committee members and are not threatened by the criticism they may have about professors. Since these individuals have little to lose, they are apt to be more objective than a doctoral student who is still under the direction of a committee and may be fearful of "telling it all" lest such confidential information reach the wrong ears.
7. By all means be a good listener. Analyze all the information which may deserve study and research. Again, watch for verbal and nonverbal clues. Don't be pessimistic but also don't be gullible. Be an observer and explore your options well.

The Oral Qualifying Examination

Almost all colleges or departments require an oral examination prior to admittance into a program. The main purpose of the oral qualifying examination is to determine what specific qualities (academic, professional, social, and personal) the student possesses. Although transcripts have been reviewed and screened, this is generally the first vis-a-vis formal meeting between the student and the doctoral advisory committee. In other words, committee members who have been selected by the student now convene to get along with the business of mapping out strategies for a doctoral program, but only after the committee has been convinced that the candidate has demonstrated several skills regarded as essential for success in conducting scholarly work.

There are several things one can do to prepare for this first formal meeting with his/her committee; however, no matter how much groundwork has been laid in advance, it is rather an anxious experience for most students. It should be a productive one. As a general rule, committee members will attempt to make the oral qualifying as non-threatening as possible; however, the stigma attached to the process leaves most students fearful and unconvinced of this consideration.

What are Committee Members Interested in Learning about a Student?

The following are repeated questions and concerns of most committee members:

1. What are your objectives and goals?
2. Do you fully understand the academic path you have chosen in realistic terms?
3. How will the doctoral degree contribute to new knowledge or to the field of interest?

4. How well do you articulate ideas, how well do you project, and how well do you convince others?
5. Do you show real commitment?
6. Is there believeability in the manner in which you present information, or might you verbalize one thing and signal something different through body language?
7. How well are answers to questions based on appropriate evidence, sound rationale, theory, previous research and logic?
8. What decision making processes do you use to defend certain points? Are you driven solely by personal experience to make decisions, or is there logical reasoning in your answers? This particular phase of the questioning can turn the tide of consensus for or against you perhaps more than any others, so you ought to review the processes of inductive and deductive decision making.
9. Committee members may wish to know whether the student has given any thought to course work needed to prepare for the objectives in mind. Generally this is a cooperative effort, but the student should have made some assessment in advance of the oral qualifying and be able to speak to some options in course work to be taken.
10. How convincing are you in wishing to venture into a doctoral program and pursue scholarly work? Since the work is confining, rigorous, and fraught with difficulties (both personal and financial), the committee is concerned in how well you are able and ready to pursue a program and see it through to its completion.
11. Are you willing to accept constructive criticism and advice where it is found essential to the success of your program?

12. Do you have the aptitude for conducting well-controlled research and the ability to learn the statistical skills necessary to analyze research data and interpret them?
13. What is your general composure and demeanor? Do you come across in a professional manner, manifesting poise and self-direction? Or are you impetuous, over-sensitive, and irrational?

No list can possibly be all inclusive because of the varying nature and composition of advisory committees, but it would appear to make good sense that, once the candidate has reviewed the above points, most of the questions asked by committee members would be of no complete surprise.

Some Further Words of Advice

Seldom can a doctoral aspirant impress a committee if he/she cannot clearly express the academic goals in mind. This simply means -- the candidate, in most cases, has been through a graduate program as a Master's Degree student, and should be able by the time of the oral qualifying examination to demonstrate conciseness and clarity. To provide an answer such as, "I want to get a doctor's degree because I think it's going to help a lot," is almost as bad as not having any reason at all. These kinds of responses indicate a lack of insight, thought and planning. The student should know precisely why a doctoral degree is sought, the objectives in mind, how it will improve personal competencies, skills and expertise in the area of interest and how all these elements tie together into some logical plan to enhance the discipline or profession.

The student should avoid giving answers which stem from inferences, assumptions and hearsay. This is not the approrpiate time to try to win an argument, especially one which may be based on semantics and conjecture.

Discretion is sometimes the better part of valor, and it may be wiser for the candidate to admit that he/she doesn't have sufficient background to provide an adequate response. In most cases, this is one mark of a secure person; otherwise, you may come across as stubborn and inflexible. Committee members are also impressed by how willing you are to improve those necessary competencies you need to improve; however, be careful not to become overly zealous in revealing all your sins and shortcomings. Some members may interpret this as a sign of weakness, so use good judgment in determining how much weight you give to each question which is asked. Another suggestion is to show some humor if the occasion permits, in order that the committee doesn't see you as too serious and solemn. Any humor should be natural and fitting, lest you are perceived as a clown or town comedian. Being overly academic, serious, funny, or inquisitive can hurt your chances in an oral qualifying exam. Remember that committee members realize the importance of the oral exam to you and will understand that it is an anxious situation. Be yourself, be natural, and recognize that it is an opportunity to inquire about your qualities, experience and background. Remember, everyone can be enlarged by this experience, so let it happen.

CHAPTER SIX

THE GRADUATE STUDY PROGRAM

Development

Soon after the student has met and satisfied the Oral Qualifying Examination (if required), it generally follows that the approved Graduate Program of Studies (or the Graduate Study Program) is formulated.

In preparing the Graduate Study Program the major advisor is instrumental in its direction but other members of the advisory committee are generally permitted to contribute to its development. As mentioned previously, degree requirements are generally specified in the General Catalog of the university; however, the specific courses to be taken are left up to each department and the candidate's committee. This program must be approved by the Graduate College of the University, after being signed by committee members.

Once the committee and the student have planned the program of study, the student sets out to satisfy all course requirements as well as any internships or field work which may be necessary. It is not until the oral qualifying examination is completed that the student is generally entitled to officially formulate a graduate program of studies. Though there have been some cases in which students took courses in advance of being admitted to a doctoral program, this is a cart before the horse procedure, and no student should be encouraged to follow these steps. As a rule, most doctoral students satisfy their residency requirements during the year or so they spend on campus completing their course work and internship experiences. These residency requirements vary with each university and with each department and should

be carefully observed by the student. At some time during the near completion of course work, the student may take the appropriate Foreign Language Proficiency Tests (if required) and provide these scores to the Graduate College concerned.

Comprehensive or Preliminary Examination

The Comprehensive or Preliminary Examinations are synonymous terms used to signify the written examination following doctoral course work at most universities. "Comps", "prelims" or "writtens" will be used to designate the written examination following doctoral course work. The comps or prelims are taken after the student has completed all course work, or may be taken during the last semester or term of course work completion. In most cases language requirements must have been met (if required) and the student must petition, in advance, to take the written examination. There are several preliminaries the doctoral candidate might consider before attempting the prelims. These are:

1. Confirm that all course work has met the appropriate grade standards for the Graduate College (usually B average or better).
2. Language proficiency tests have been taken and scores provided the Graduate College.
3. Members of the Advisory Committee have all been notified of the examination schedule designated by the student and approved by the Graduate College.
4. The student has planned far in advance of the examination to allow for review of course material, in-depth reading, consultation and study.

The student has the onus of responsibility to contact each member of the advisory committee in order that each may provide appropriate information and counsel for preparing the written examination. The prelims or comps generally require one and one-half to two complete days of examination (depending on the university). The examination is generally essay (subjective), or open-ended. The candidate may receive questions from each member of his/her committee, preferably from whom work was taken. It is a generally accepted practice that committee members will do their best to offer appropriate suggestions to the candidate for preparing for the written examination which properly should be a synthesis of doctoral course work completed.

Oral Examination Following the Prelim or Comps

The oral examination ("orals") following the written examination must also be planned with the consent of the Graduate College and the proper notification of all committee members. Particulars should, again, be checked out with the appropriate department and Graduate College. Essentially the Oral Examination does two things: 1) it provides an opportunity for committee members to seek further clarification on specific responses (if necessary) and gives each member the opportunity to ask additional questions specific to course work taken. This is done because of the time limits imposed in the writtens. 2) Another principal reason for the orals is to provide the student the opportunity to explain responses which may not have been well defended because of such time constraints. In essence, the oral examination serves two important purposes without which there might be less opportunity for the candidate to defend some of his/her answers, and for committee members to learn more about the candidate.

It is not until the student has completed 1) the comps and 2) the oral examination that he/she can become a candidate for the doctoral degree. Prior to this time the student has only been admitted to the doctoral program, which does not imply candidacy status. While there are some variations in specific requirements, there are some universities which require that the dissertation proposal be completed and approved prior to conferring candidacy status. This, however, is not a criterion universally enforced, and the candidate may be in the process of writing a proposal when candidacy status is accorded. In such cases, a draft of the proposal will usually be acceptable.

How to Prepare for the Written Doctoral Examination (Preliminary/ Comprehensive)

1. Review course work materials by checking over notes taken in classes, or critique available tapings of such classes.
2. Review textbooks used in courses and select essential points from pages you may have underlined, circled or marked as important.
3. Associate the information obtained from the above sources (concepts, principles, theories, constructs) and link them with the original sources, writers, researchers or authors.
4. Study other comprehensive examinations which may be available to you through some Departments or Graduate Colleges.
5. Form special study groups with individuals in your department who may have taken courses with you and may also be preparing for their written examinations.
6. Give yourself sufficient time to prepare; for the preliminary examination is not just another test. Committee members will be more

interested in your capacity to synsethize material and place it in proper perspective rather than how much you can memorize.

7. Discuss the written examination with each professor on your doctoral advisory committee. As mentioned, each member will likely provide you some input about what areas to study since each must prepare questions for your writtens.

Different individuals prefer different methods in studying for the prelims. For example, some students will read and review their notes for two months or so before the exam, while others prefer to review other prelims (proofs) from former students in the same department. While some benefit from discussion groups, others prefer the quiet of their own homes or libraries. In reality, it is quite an individual matter and the student should capitalize on whatever learning style is best for him/her.

Writing the comps is quite a rigorous experience. Students have complained of blistered fingers, headaches, sore necks, nervous stomachs, and other problems; however, like many other unknowns, we tend to overexaggerate the difficulty of many things. The experience does not have to be a torturous one, especially if the student is well prepared and attempts the comps with a positive frame of mind. When taking the exam, checking the time-frames needed for each question should be the first order of business. Students should approximate how much time should be allotted for each question and pace their writing accordingly. Some find it useful to outline each of their questions and elaborate on them as time permits. Others find it easier to do the outlining in their heads. In any event, a method of developing some continuity and sequence for each question should be considered. In short, you need to organize your time in order to collect your thoughts.

CHAPTER SEVEN

THE DISSERTATION PROPOSAL

Its Importance

The dissertation proposal is perhaps the first real attempt, by most students, to conduct a highly technical research project of superior quality and standards. It may properly be called the "blueprint" or "backbone" of the doctoral research study and its development is critical to a successful study. Although the dissertation requirement has not been short of its critics, it is still considered the major scholarly endeavor evolving from doctoral work contributing most to the student and to the special field of interest.

The Proposal

The proposal is a document that delineates the direction the dissertation will take. It specifically points out the procedures which will be followed to conduct the research in mind. Some research writers who generalize about the dissertation, say that there are two broad components in a dissertation study; namely, 1) the introduction, which explains the problem, purpose, hypothesis(es), rationale, assumptions, and limitations; and 2) the procedures, which explain how the research will be designed and conducted.

Principal Elements of a Research Proposal

Statement of the Problem and the Purpose

Tuchman (1972, p. 12) suggests

> ...For a student, identifying a problem is the most difficult step in the research process. He must

> discover and define not only a problem area but also a specific problem within that area that he chooses to study.

Two big mistakes students make in choosing research topics are that they select those which are too global to be manageable or too narrow to have any generalizability. For example, the student who insists on conducting a study on "Why Minorities Fail", is ignoring the multitudinous variables inherent in such a study. A more feasible choice for a topic would be to select a few testable variables and examine these through hypothesis statements. Such possible variables could include self-concept, locus of control, IQ, economic status, language dominance, use of home language, education of head of household, educational level of parents, and so on. This is a rather long-winded way of making a point, but it seems that one ought to be very cognizant of narrowing the scope of a problem in order that it may be manageable. We wish to offer a good suggestion about the selection of a problem and purpose by referring to Sax (1979, pp. 40-41):

> ...One reason students find it difficult to select a research problem is that they often confuse a problem with the purpose and methods used by the researcher. A problem is a perplexing situation... translated into a question or series of questions that help to determine the direction of subsequent inquiry.

It is not unusual that many students spend many hours struggling over the clarity of their problem and purpose statements; however, if it is any consolation, it is part of the research process which is inherent in any study. Sax further explains

> ...In contrast to a problem, the purpose of the study is to resolve the perplexing situation by certain specified methods.

Often it may be advisable to include a Background Rationale subheading in a proposal if it appears that it will lend to better understanding. Often

it may be appropriate to provide a subheading which describes The Scope of the Study. These subheadings must be considered in terms of how they more adequately clarify meaning rather than as mere "add-on" components of the proposal. Merely to "paste in" subheadings is as ineffective as not inserting those which augment clarity.

Significance of the Study

Every study must be justified on the basis of whether it will make a difference. This may be analyzed in two ways: 1) Are there conditions in our society which call for answers or need to be resolved perhaps through research? and 2) Is there not enough research being conducted which seldom contributes to anything except someone's whim or fancy? Perhaps it is obvious, then, that the study should fulfill some need, have some purpose, attempt to remedy some condition, ameliorate some problem or answer some question(s). At this point you should convince your advisory committee of the significance of the study by referring to appropriate evidence, previous research, or lack of such research, in the area of interest. Reports, journal articles, well-conducted television documentaries and convention lectures are but a few sources which may be used initially to support the need for the study and to develop its significance. It is not uncommon that additional subheadings are added expanding on The Need for the Study or The Rationale for the Study. Here again, one must weigh how well these subheadings may enhance understanding and clarity. A typical way to express the Significance or Need for the study is to state, "The purpose of this study is to ..."

Statement of the Hypothesis

Hypotheses are generally stated in order that they can be tested in experimental, causal-comparative or correlational research. In descriptive

research it may be difficult to test an hypothesis statistically; however, when this situation arises the researcher should develop questions which will serve to guide the study and provide the bases for direction and comparison. Hypotheses should be testable, based on theory, supported by a sound rationale or tied to appropriate logic and thinking. Since few problems in education are linked with only one event or possible cause, it is recommended by most research writers that multiple hypotheses be tested. Van Dalen (1979) suggests, "A hypothesis suggests where to search most profitably for facts and how to detect relevant relationships between them." Van Dalen also says, "Hypotheses are calculated guesses, but these guesses are not merely happy accidents" (page 198). Hypothesis statements often cause beginning researchers deep confusion inasmuch as it is often difficult to distinguish between research hypotheses and statistical hypotheses. David Fox, in his text The Process in Education, 1969, has addressed the problem thusly:

> ...In some instances a research hypothesis may state that no difference is expected... In other instances, however, the researcher expects a difference. But where we have this choice of stating research hypotheses either in terms of no difference or difference, every inferential statistic we have can only test hypotheses of no difference.

Fox further states:

> ...The statistical hypothesis is not formally stated in the same way that the research hypothesis actually appears in the proposal and report of a study.

The statement of the hypothesis approximates the objectives of the research. Fox example, if a research hypothesis reads as follows: "There will be no significant difference between the increase in sugar intake and rise in hypertension in children", this designates the locus of the research; that is, the objective now is to find out whether the hypothesis can be supported or not. When hypotheses cannot be tested through statistical

measures, the researcher may ask questions as follows: 1) Does an increase in the amount of sugar in children's diets increase hypertension? 2) What is the evidence of hypertension due to the intake of sugar in children's diets? 3) How does a sugar increase in the diet affect the behavior of children? Questions one and two above are more biased than question three because they suggest that a researcher look for an increase in hypertension; question three is neutral. The point of this example is that questions must be carefully stated in order that they do not predispose the researcher to certain findings.

Assumptions

In every piece of research, one must assume some things, especially with those variables concerning people's behavior and conduct. These assumptions must be pointed out to the research reader, for they help to legitimize our research. For example, can we know for sure that all subjects were interested in participating in a research project? Can we guarantee that everyone was equally aware of what was going on, or must we assume everyone was? Can we prove that the learning took place because of a particular reading program, or might it have been some moderator variable which was much more influential than the program itself?

The number of assumptions one should make is contingent on the nature of one's research. A general rule of thumb is that one should not be over-generous in specifying every conceivable assumption in the research, for there are many common assumptions that we must expect in most research endeavors. To clutter the research with an over-abundance of assumptions makes one wonder whether the research was worth conducting. One should appropriately identify those major assumptions which affect the research directly and have significant bearing on the research results.

Limitations

Under this subheading the boundaries of the research are specified and the number and kinds of cases, subjects or specimens are defined. One might begin: "This study was limited to sixth graders in one large school district in rural Alabama." The importance of the limitations section speaks to the several restraints imposed on the research study during the course of its development. Seldom, in a research study, do we escape impositions on our time, scheduling, gathering of our data, uncooperative respondents and other items too numerous to mention. To expose the reader to every limitation of small magnitude is also non-productive. Only those limitations which may have reduced the degree of accuracy (reliability and validity) should be included. To describe a limitation such as, "It was muggy, warm and humid the day of the examination and the children were restless," is a limitation which should be included only if it has directly affected the total results of the study; otherwise, it is assumed that there will be muggy, cloudy or sunny days during the term of a research study.

Definition of Terms

One must clarify special terms which are not common to the reader. Let's suppose we use the term "Chicano" in our study. Does it mean Mexican Americans only? Does it include those subjects of Spanish lineage only? Does it encompass Mexican Americans, Cubans, Puerto Ricans and other Latins? The researcher must be precise and clarify those terms that are likely to be misinterpreted or are esoteric to a particular discipline. Common terms should not be included unless the researcher is giving different meanings to them aside from their standard usage.

REVIEW OF THE LITERATURE

This section in the proposal reflects a preliminary search of the related literature in the special field of interest. Such sources may include: 1) conceptual literature (journals, interviews, texts, periodicals, reports, newspaper articles, speeches, White House Conference Reports, etc.); or 2) research literature (research investigations, dissertations, or other legitimate studies). Most textbooks on research provide a good bibliography explaining the sources for gathering much of the literature one needs for the preliminary review of the literature. Data banks in most libraries and research centers can extract data for the researcher for a small fee. The Research in Education (RIE), the research center of Phi Delta Kappa, is very useful, as is the ERIC Clearinghouse System. One can also save many footsteps by utilizing computer data banks. The parallel one might draw from their use is like having an assistant doing much of the preliminary library work for the student. The other main advantage of literature searches is that they are often more up to date than many books on college library shelves. Besides, students often complain of being unable to find the books they need.

The review of the literature has often been viewed by students as a tedious library exercise, but this is the least acceptable rationale for this section in a proposal. It is an important component of the research since it does several things:

1. Provides the researcher a background which will serve in developing a broader understanding of the research topic.
2. Informs the researcher of related research in the topic of interest from which may come further ideas for developing the several chapters of the study.

3. Provides an opportunity to review data-gathering instruments and procedures which can possibly be utilized in the study.
4. Exposes the researcher to experts, writers, authors and other researchers who may be useful sources in the study.
5. It provides data for every chapter of the research. For example, it may provide conclusions of other researchers which can be synthesized and used in making comparisons in one's own study.
6. It may add information about the problem and assist in verifying the strength of the hypothesis to be tested.
7. The review of the literature serves as a safeguard in that it provides the researcher the needed confirmation that the research in progress has not been duplicated by others.

There are many other reasons why the review of the literature is important but perhaps it would not serve a useful purpose to list them here. The heart of this section is that it makes for a better informed researcher. According to one addage, "There's nothing like a well-informed man/woman." We should expect no less from a researcher who is conducting a study which may have broad or universal implications. To some degree we would expect this level of rigor from any professional endeavor; certainly from a scholarly exercise which demands rigid controls.

PROCEDURES

In a proposal, the advisory committee is concerned with how well you have thought through the process of identifying your population sample, instruments to gather the data, statistical techniques for testing hypotheses, and how you plan to classify, summarize or treat the data.

Borg and Gall (1976) specify that:

> ...the research procedure usually reviews the steps taken to collect the data, including any occurrences that may have influenced the results. (p. 453)

The following are essential elements which should be included in the procedures or methods section:

1. Research Design. A research design is a specification of operations for the testing of a hypothesis under a given set of conditions (Tuckman, 1972, p. 13). This subheading delineates the steps to be followed. It is not a bad idea to mention briefly the hypothesis of the study in this section as a matter of introduction.

2. The Sample. According to Tuckman (1972, p. 205):

> ...The primary issue in choosing a sample size is that it be sufficient to assure the researcher that the sample will be representative of the population from which it is drawn. While the researcher can never be certain of this representativeness unless he tests the entire population, he can establish that the sample is representative of the population on critical parameters at an acceptable level of probability.

This means that the researcher should use the most appropriate sampling techniques to obtain representativeness. In most cases this will require the use of random sampling procedures.

Data Gathering Instruments

Typically the instruments to be used in the research can be referred to as the basic tools for gathering the data. As a rule it is preferred that a researcher use those instruments which have already been standardized and pilot tested for their reliability and validity. It takes much background, expertise and experience to validate a research instrument or test it properly. Researchers who are not familiar with face, content, congruent, concurrent, construct and predictive validating procedures will face many problems constructing their own data gathering devices or instruments. Often the pilot testing procedures can delay the researcher for two to six months on a dissertation study; so consider it well.

Collecting the Data

If a questionnaire is the principal means for gathering the data, here again it ought to be a standardized instrument or one which has been properly modified. The collecting of the data section should indicate: 1) how the sample was collected, 2) why it was chosen, and 3) the population it was chosen from. At this point the researcher may have to speculate how all the data are to be treated, for it may be that not all procedures can be identified until all data are collected as in content analysis. There must be a tentative plan to guide the researcher through the data gathering process. Some writers have thought of this portion of the proposal as a well-planned diary of activities specifying the operations of the study.

This section may explain how a single variable, such as a treatment variable (providing token incentives to children) may influence a dependent variable (study habits in the classroom). This section may explain how extraneous, intervening, moderator and/or situational variables will be controlled. No research study can infer cause and effect unless several variables are controlled, so these must be spelled out in advance of your study. In this section you are also responsible in describing the tests to be administered, how you plan to group subjects and how these data will be treated in the analysis chapter.

Summary/Conclusions/Discussion/Recommendations

Obviously, since the research proposal is a plan to conduct a research study, it is not possible to include a Summary, Recommendations, and Conclusions chapter. It is for this reason that the researcher need only mention these components or chapters which will be included in the remainder of the dissertation study.

CHAPTER EIGHT

WRITING THE DISSERTATION

Initial Considerations

It is imperative that the researcher begin his dissertation project by thoroughly reviewing and understanding the written research proposal. As a matter of fact, much of the research proposal material and information can be utilized in the INTRODUCTION Section of the dissertation itself (first chapter).

Further Review of the Literature

The researcher can now begin to expand on the initial review of the literature in relation to the hypothesis(es) or questions posed in the research proposal. Literature which will help to further identify the problem and clarify assumptions should be reviewed, analyzed, documented and catalogued on data cards.

The researcher should begin, if he has not already done so, to organize material systematically through the use of record cards that lend themselves to detailed analysis. This technique is better than summary sheets which may be difficult to rearrange and organize into appropriate categories. The researcher, at this point, may be wise to check with a professional computer programmer (should he/she not be trained) to determine the possibilities of using punched cards and to consider a format required for assimilating and sorting the pertinent data. These may seem like trivial points but they can save the researcher time, money and energy, and may enable the researcher to use the computer in order to collect and treat the data more scientifically. Remember, the more you can do to avoide duplication of effort by systemizing

your procedures for data collection, the less will be the degree of frustration and the higher will be the chances of expediting your study. It is not unusual that some students merely survive through a dissertation as if they were going through some sort of warfare. This is deleterious, for the researcher finds himself/herself more immersed in a struggle than in an organized system of inquiry and learning. The researcher, in other words, should prepare in advance, as an architect proceeds by referring to his blueprint. Any casual, haphazard approach in reviewing the literature bears the seeds to a variety of problems. Be reminded to consult your advisor about the appropriate university-prepared or commercially-published style manual which may be required to complete your dissertation. You must be sure of using the appropriate format required by the Graduate College and Department.

Selecting a Title

Often the selection of an appropriate title can be revised as a result of further review of the literature. Titles should be brief but should provide a concise description of the study. Some writers suggest the title should not exceed 15 words. Titles should be lengthy enough to give an accurate picture of the principal aim(s) of the dissertation, but should not be verbose.

When To Start Writing?

Some students believe that they must complete the entire Review of the Literature before they can begin writing. This is a completely erroneous assumption. The review of the literature may include much information which is pertinent to the study; however, there is no sound reason why the student

cannot begin to write the drafts for several sections of the study and revise them as additional data may indicate.

Writing the Introductory Chapter

The Introductory Chapter is often called "the general orientation chapter." It defines the problem, the purpose, hypothesis, assumptions, significance, and limitations as have been explained in your written proposal. Here again, much of the information from your proposal can serve as your first draft of the Introductory Chapter. Begin early to write your first chapter and don't put it aside as many students tend to do. This only prolongs the process of writing and merely adds to the amount of time you may have projected for completion. It is a good idea to allow your first draft to develop gradually. Let it sit for a time while you go about your business of working on other areas of your study (expanding on the review of the literature or assessing research instruments). You can then return to the draft, read it again for strengths and weaknesses, and make necessary changes. It is not at all descrediting to have someone proofread your first chapter for editing and readability. All the expertise you can bring to bear helps improve the conciseness and clarity of wording. As Albert Jay Nook remarked, "I not only use all the brains I have, but all that I can borrow."

Ordinarily your Introductory Chapter may include most of these subheadings (not necessarily in this order):

1. Background
2. Problem Statement
3. Purpose of the Study
4. The Need for the Study
5. Significance of the Study

6. Scope of the Study
7. Rationale for the Study
8. Hypothesis Statement(s) or Questions to Guide the Study (Objectives)
9. Limitations or Delimitations
10. Assumptions
11. Definition of Terms

The Outline

The review of the literature should be carefully outlined or it will be fragmented, choppy, and lack continuity. The student should utilize data cards to sort, organize and classify the data into relevant subheadings. For example, when two or three studies are found to be pertinent to a certain point, these should be synthesized and placed under one subheading rather than treating each study separately. To discuss each source of reference in detail is license for boredom and narrowness of thought and organization. The Review of the Literature Chapter should be completed as soon as possible after exhausting all pertinent sources that relate to the study. Because the information may be fresh in mind, it should not be left standing too long. The danger in allowing this chapter to age is that the researcher may forget how the several sources, articles and documents relate or tie together in the overall study. This would also result in an article-by-article treatment of the review of the literature and could lead to a complete disaster.

Use of Quotations

There is no research which is so clumsy as that which is overly profuse in the use of quotations. The excessive use of quotations spoils the

creativity of a research study and stifles its natural continuity and flow. Linking one quotation to another only by the use of one sentence or two is tantamount to ignoring the principles of good research writing and logic. A better use of quotations is to use them where they help to support certain propositions or clarify specific concepts and findings. Quotations that are used correctly expand the basis of understanding and help the research reader to penetrate deeper into those theories or research constructs being discussed or analyzed.

Quotations that are used only to impress committee members about the number of sources which have been cited should be left to other types of writing. They have no place in expository or research writing.

The Sample

This subheading begins with a complete description of the sample (respondents, subjects, specimens). Details are provided here in such a way that no doubt is left in the reader's mind about the characteristics of the sample studied. Such items as ethnic composition, IQ, sex, socio-economic status, achievement test scores, urban or rural location, educational level of parents, school, community environment, among other variables, may all be included to describe one sample in a study. The researcher, in other words, should attempt to describe the sample in such terms that other researchers wishing to replicate the study have no problems in identifying all the characteristics of the sample in the study.

The Population

The researcher has the responsibility of defining the population parameters which will be sampled. In defining the population, the researcher

must determine whether it will be restricted locally, regionally, or nationally in scope. The larger the defined population, the more difficult it will be to select a representative sample, collect the data, and operationalize the total research project.

Again, it is recommended that you exhaust all possibilities in seeking a standardized instrument rather than using a researcher-made one. It may be better to revise a standardized instrument rather than preparing one from scratch. Using an acceptable standard measure is reasonable because the researcher doesn't have to do as much explaining. If standard instruments are used, explanations can be quite brief, inasmuch as research consumers will acknowledge that there has been extensive work done towards developing reliability and validity. The opposite is true of self-made instruments, since all details for pilot testing and establishing reliability and validity must be described in full detail. This can possibly become an extremely technical part of your research, making it necessary to add an additional chapter to the dissertation, although this may not be the case. The least that can be expected with most self-made instruments is that full particulars must be included in the Appendices.

The Design

The researcher should be specific in delineating the type of research design employed. In other words, is it historical, descriptive, causal-comparative, correlational or experimental? How will the subjects be grouped and how will they be selected for each group? What tests will be administered? Who will observe? How will observations be tallied? Questions which may be asked are:

1. Have the data-collection methods been described clearly enough that they can be replicated?
2. Are the procedures for arranging subjects into specific groups clearly spelled out? Are they matched pairs? Were they randomly selected?
3. Are the appropriate statistical tests used to compare the data drawn from the population? If, as an example, the t-test is being used, is it the correct one for the particular samples being compared?
4. How were control and experimental groups selected and what were the various treatments given to each group? What other controls were included?
5. What were the occurrences which might have influenced the results, such as changes in the data-collection plan, adjustments in the organization of groups, or other unanticipated events?
6. What steps were taken to control for moderator, extraneous, intervening or other variables which may have contaminated the research (maturation, mortality, statistical regression, etc)?

A complete list of all possible questions would be infinite and it may suffice merely to conclude with this statement: The researcher is responsible for describing all the particulars of the research methodology in order that an independent researcher can replicate the study. All the steps such as defining the population sample to the collection and treatment of the data are specifically delineated in this chapter. Little should be left to the imagination in this chapter, and the researcher should keep extensive notes of all activities that took place in conducting the study. Records of procedures for observation, tallying and handling of the data should be fully explained. A running narrative can serve as a useful method by which the researcher can extrapolate the data for the procedures section.

Writing the Analysis of Data Chapter

This chapter is often called the results chapter or research findings chapter. In this chapter the researcher should recall the objectives of the research and the methods used to gather the data. This helps to provide some continuity and flow ranging from 1) the purpose, 2) how data were gathered, and 3) what was found.

Some research writers recommend that this chapter be organized around the hypothesis which was tested or questions which guided the study. This seems to be a sensible approach since the researcher can follow hypothesis statements from the beginning, to their testing, and findings. This also facilitates the organizing function and permits the researcher to develop order, clarity, flow, and conciseness in the presentation of results.

Often the Analysis of Data Chapter can become difficult to comprehend if the researcher strays from succinctness and brevity. Since the researcher has generally become intimately familiar with the technical and statistical research aspects of the study, there is a tendency to become esoteric in this chapter and to use terminology and "buzz words" which may confuse the reader. This is not the place to become complacent about the rules of clarity in research writing.

Tables are useful tools for pictorially describing and analyzing the results of the study and these should be well organized in order that a sequential approach enhances understanding. No table should be used which needs to be explained in detail. Tables should stand on their own merits and generally not include more than three variables. An overuse of tables is as bad as an overuse of quotations. To discuss every entry in a table can also lead to a nauseating approach to presenting the results and should be strictly avoided.

The heart of this chapter is not so much the details of each finding based on the hypothesis, but rather the thought-provoking interpretations drawn from the findings. As in most investigations, it is not necessarily the findings which have meaning insomuch as the inferences or interpretations which can be derived from such findings.

Writing the Summary/Conclusions and Recommendations for Further Research

It is a good idea, as the researcher begins writing each chapter, to remind him/herself of the problem(s), purpose, hypothesis, and questions which may have been formulated to guide the study. It is doubly important that the researcher review all these in writing the summary section. This is where you "put your act together" as it were.

This chapter tests the researcher's ability to describe the main features of the research study. This is difficult to accomplish since one must omit much detail and list essential findings without losing the intent and purpose of each significant finding. To summarize merely on the basis of "scissor cutting" can lead to out-of-context meanings not intended in the original findings. This is where the synthesizing function becomes important and the researcher must use it with expertness. The skill is not merely to extract data but to present it in such a way that meaning is the focus without the detail.

Conclusions

Ordinarily the researcher may, again, refer to the Introductory Chapter to form the basis to the conclusions section. In writing the conclusions, it is difficult to keep from repeating much of what has already been said; however, one must omit much detail and preserve the intent and purpose of such findings.

Words must be chosen carefully in order that inappropriate connotations do not contaminate original conclusions.

It is not uncommon that this chapter provide a subheading entitled Implications or Discussion. This is where the researcher may suggest how the research has implications to fields other than the research study. From this may come suggestions or ideas for other projects or research activities, or better still, it may offer a new alternative for solving the dissertation problem, providing it was not resolved. It is not advisable that the researcher make this section too extensive, for human behavior being what it is, there may be a predilection to fantasize if one allows the imagination too much license. Some researchers recommend that conclusions be listed, but this may invite a "laundry list" approach which may stifle the breadth and scope of this section.

Recommendations for Further Research

Most often this section is not lengthy. During the writing of the dissertation the researcher has spent many hours of his/her time selecting information from a broad area of topics and sources. The research findings themselves may have left some unanswered questions which may be useful suggestions for further research. If, for example, the researcher encountered several difficulties in the instruments used, this is where suggestions for improving them may be included.

Scholarly research often generates new findings originally not thought of before a research project begins. This is often fruit for new research ideas which may enhance knowledge and perhaps solve new problems.

The Bibliography

The bibliography is generally developed according to the style manual required by the Graduate College concerned and not much can be done to alter this format. One thing to remember is that whatever style is selected, it must be consistent with the prescribed style manual. Books, periodicals, journals, scheduled interviews, telephone conversations or studies which were cited in the dissertation, must be listed in the bibliography under proper headings. You must double check how these are to be handled.

Appendices

Materials which were useful to the research study, such as questionnaires, letters of transmittal,methods of recording observations, explanations for using certain research tools and other documents are to be included in the Appendices. The reason why these materials are included here is that they were essential to the study; however, had they been included in the body of the dissertation, it would have made the dissertation too bulky and cumbersome.

CHAPTER NINE

RESEARCH VIGNETTES, SCENARIOS, TIPS AND HINTS

Repeated Errors

Often it helps to know what one shouldn't do to gain knowledge about what one should do. Over the years students have make numerous recurring mistakes in research writing. This is not to blame the student since it is a first attempt at a highly technical writing exercise. Several repetitive errors can be avoided in writing your dissertation by adhering to the following suggestions:

1. You always use the third person in referring to yourself in the research paper.
2. You are the researcher or investigator. Since you are not writing a book or a novel, you are not a writer nor an author.
3. The researcher can only say that his/her research supports or does not support a hypothesis or several hypotheses.
4. Since most descriptive, causal-comparative or correlational research can only determine the degree of relationship and NOT causation, it is biased to infer that you are out to prove anything. As a matter of fact, it is a bad approach to begin a study, for it indicates your bias from the outset.
5. Quotations, as previously mentioned, can be overused to the point of abuse. Much of this redundancy can be avoided in several ways. Consider these examples. Don't use: "Jones (1978), Smith (1973), Brown (1977), Sing (1971), Carpenter (1975), and Rutherford (1976)

were all in favor of the Equal Rights Amendment." Do use: "Jones (1978), Smith (1973), Brown (1977) and others were in favor of the Equal Rights Amendment." Or use: "Jones (1978) and others were in favor of ...".

6. Use a variety of synonyms to break up the monotony of certain word overuse. It is recommended that every doctoral student obtain a copy of the pocket Roget's College Thesaurus and a small dictionary which is easy to carry. Don't use: Jones (1978) stated, "The aged suffer from nutritional problems," while Smith (1977) stated, "The problem was not as severe as generally thought." Brown (1978) stated, "There is no way of really finding out about the problem." Do use: Jones (1978) commented that, "The aged have severe nutritional problems." While Smith (1977) disagreed with the above observation, Brown (1978) concluded that, "There was no way of accurately gathering data to support either position." It is suggested that the researcher gather a reserve of alternatives for citing the multitude of references and sources in the study. As seen in the above example, rather than repeating the word "stated," one should have a list of other verbs, such as: asserted, declared, confirmed, affirmed, remarked, alleged, observed, noted, pronounced, disclosed, postulated, proposed, and so on.
7. There are rarely occasions where a researcher should allow feelings, affection, fascination or passion to influence the research being conducted. Although it may be a study of great importance to the researcher, this does not give the researcher license to project these emotions into the research paper. Don't use: "The researcher felt there was a great need to help the poor and raise them from

their plight; thus became interested in this research." Do use: "The findings of the White House Conference on the Poor (1973) and the Mayor's Report of 1977, aroused a great need to research the problems of the poor."

8. Much research on minorities and other subgroups in our population has been unacceptable because of the lack of internal and external validity in such research studies. Don't accept everything you read merely because the article or book originally was written by a well-known or popular publisher. Compare what you read with previous research, theory, sound rationale and with those who are authorities concerning the subgroups being addressed. Ask members of the specific subgroup how they view the findings and also compare this with the literature.
9. All measuring instruments that are not standardized must be tested for reliability and often these are hastily prepared by Masters and Doctoral students. Although we have made this abundantly clear, do not develop a self-made instrument merely because you think your research is unique or atypical, and you feel you must show you can produce your own instrument. Take time to pursue all the possible standardized measures or those which might be modified for your purposes. This, you must insist on doing before you take the final step in developing your own instrument. Every doctoral student has given testimony to this point.
10. Researchers must follow a set of professional channels before conducting research in schools, the community, and in organizations. Don't venture into schools and begin gathering data before you have the authority to do so. Contact the principal persons of authority

in the schools or organizations and obtain their authorization before conducting research. This may include a guarantee of privacy to respondents, permission from parents that no harm will come to human subjects and other such assurances.

11. The doctoral student should prepare bibliographic cards meticulously in order to avoid having to find information after the writing has begun. Don't rely on your memory for information which is necessary and vital to your study. It never works. Be adamant about including complete and accurate information on each source you use, even to the point of being reasonably "hoggish" in your notetaking. There is nothing more frustrating, once you have begun to write, than to have to look for information you didn't include in your data cards. This does not imply that note cards become miniature dissertations in themselves, for here we are speaking of 3" x 5" or 5" x 8" cards. The size of the card is inconsequential; it is more important to include all pertinent data than to quibble over card sizes.
12. Remember, correlation does not imply causation. In other words, don't assume that, because the magnitude of correlation is high, there is a cause and effect relationship. Accept the results as they are, providing you have followed adequate research procedures, and report the findings as having possible high correlation, should this be the case.
13. A research paper is entirely different from an essay or term paper in that it necessitates a more scientific and precise style and format. You have little freedom to indulge in suspense, doubletalk, or flippancy. On the other hand you must take care lest your writing become dull, stale, and lifeless. Be deliberate in the use of

appropriate major headings and subheadings which guide the reader through various research steps and procedures. One of the most recurring errors in research writing is the prolific production of page after page with total disregard for proper subheadings. This indicates a lack of ability tc place information in logical order and to be succinct. One needs to provide more of a "taxonomic approach" to research writing as opposed to a novel story approach. Here again, the overuse of headings and subheadings can stifle continuity and should be used with discretion.

14. You must record all procedures for conducting, sampling, analyzing and treating your research data. Don't rely on note cards alone for recording your procedures. Keep an accurate running diary of all procedural events to the point of being prolific. Xerox at least one extra copy of this diary or narrative in the event you lose it. The procedures section is one place not to fear accumulating too much data. You need to record all the necessary processes, events and methods for describing how the research was conducted. In order to recall all these details, it is better to have an abundance of information which can later be excluded, rather than not enough to explain fully that which you must in your chapter on Procedures and Methodology.

15. All pertinent information affecting the research study must be included either in the body, bibliography or Appendices (letters of transmittal, questionnaires, charts, documents, etc.). Don't place or file literature in ordinary places where it may be lost or misplaced. Be orderly about filing your material. Organize all material to be used into a chronological system corresponding to their fit or use in the dissertation. Once again, the researcher should establish

a workable filing system. In most cases, a doctoral study may take anywhere from one to three years or more. Imagine trying to find specific information over a long period of time if you are not well organized and cannot readily retrieve information you need!

Some Common Tips

1. Insofar as the style of footnoting and citing of references is concerned, it is much more efficient, where universities permit, to use the author-year style for citing pertinent sources over the classical footnote-numbering method. If the reasons for this are not obvious, consult a writing style manual or ask your advisor about the differences in the two footnoting procedures.
2. Review other dissertations which have been accepted by the department and college concerned.
3. Specifically review those dissertations similar to yours which have been approved by members of your committee.
4. Insist on a typist for the final typing who has typed similar dissertations for the department concerned even if it may cost you a few dollars more. It's worth it. You may also receive some valuable advice.
5. Before sending your dissertation to the advisory committee for final approval, have it proofread by at least one or two other colleagues or other third parties. Experienced researchers usually write four or five drafts of an article and ask colleagues to criticize the readability of the draft. It would not seem inappropriate to follow this advice in writing your dissertation chapters.

6. Use the past tense when writing your dissertation since readers will be perusing it after it has been completed. The only two places where you may not use the past tense are the recommendations for future studies and the implications of the study.
7. Be sure to familiarize yourself with the rules and policies specific to human subjects. These are generally spelled out in most university faculty handbooks; otherwise, check with your department, college, or graduate Dean's office.

CHAPTER TEN

THE DISSERTATION DEFENSE

The defense of the dissertation serves several purposes. Criteria in most universities for requiring the defense of your dissertation are:

1. It provides interested parties the opportunity to critique your research and elicit your interpretations.
2. It is one way of legitimizing what you have produced, as a doctoral candidate, by other professionals in your field.
3. It is one way of authenticating your total work effort and defending its implications and findings.
4. A disinterested third party official of the University is able to endorse your study as being scholarly and in concert with high academic achievement.
5. You have an opportunity to elaborate on findings, assumptions and implications which may be questioned by witnesses.
6. Corrections and final suggestions (if necessary) are identified before the final dissertation is typed and published.
7. Third parties, interested in your research, have the opportunity to challenge your study and question the results. This is the real "acid test" of your study; however, seldom do candidates face this particular challenge if the study has been conducted under the rules of appropriate research procedures.
8. Committee members have an opportunity to have you clarify some points which may not have been clear to them.

9. It is your last opportunity to have your research study officially acknowledged by the department, the college, and the university.
10. It is the completion of all your doctoral work where final endorsements, signatures and incompletes are satisfied and officially witnessed and approved.

Preparing for the Final Dissertation Defense

It would seem that after spending an exceptionally long time working on a dissertation, it would not be necessary to prepare for a final defense. This, to some degree, is true if there have not been long gaps in the preparation of the various chapters. You must remember that preparing a doctoral study generally takes the best of one complete year and perhaps longer, depending on the study and other factors. It is for this reason that the candidate often has to refresh his/her memory and be able to defend, explain, and elaborate on any portion of the study which may be questioned. Often one may not remember the exact details of the procedures or the statistical techniques used and these must be reviewed. Tables are easy to forget, as well as the significant findings and their implications. One cannot always readily recall each source cited in the research if too much time has elapsed and this is reason to read the dissertation over carefully before defense time. As a rule, committee members will not intentionally make it a point to play the "devil's advocate" with you; however, it certainly saves embarrassment if you are asked to respond to a significant part of the research and you are prepared with an appropriate answer. If a committee member becomes interested in the procedures you used to establish reliability in your research instrument, you are responsible for providing a detailed explanation involving these steps. You need to know these steps before defense time. It may be that a committee member

may want you to relate how you might have done things differently if you had the study to do over again. You might see how well you can respond to this by recalling some of your problems and limitations during the study.

Defense Procedures Which Are Generally Followed

After the date for the oral defense has been approved by the Graduate Deans's office and all committee members have been notified, a sixth faculty member, selected from outside the college, is generally asked to serve as the University official to oversee all defense proceedings. The defense is published in official university publications and interested third parties are allowed to sit in on the oral defense session.

When the candidate arrives at the meeting, the chairman of the doctoral committee usually asks the candidate to excuse him/herself while the committee deliberates on the specific protocol for conducting the oral defense. This particular procedure is followed in order that committee members can agree on the rules to be followed on questioning the candidate. This avoids confusion and needless discussion during the formal oral defense proceedings.

Once the candidate is asked to return to the room, he or she will generally be asked to offer the committee a 10 to 15 minute summary review of the total research project.

Some points the candidate should be prepared to discuss are:

1. The rationale for conducting the research (Why did you decide to do the research? Why was it important?)
2. The problem, need or purpose (What evidence was there to indicate that there was a problem? Who was affected, and how severe was the problem?)

3. Hypothesis (What did you decide to test or what questions did you want answered?)
4. Procedures (How did you select your population, sample, and gather your data? What instruments were used? What controls were essential for eliminating contamination?)
5. Essential Findings (What did your research actually produce? What were implications of the findings?) Recall that the above procedure is generally followed in most universities and the candidate may be wise to check with his or her department chairperson, fellow doctoral candidates, and former doctoral students to see whether this format is unique to his/her department and college, or whether other procedures are more common.
6. Become familiar with your data gathering instruments insofar as you are able to recall clearly how you prepared them (if researcher-made), and what was the rationale for their use.
7. If one were to suggest the three most important areas to review before the defense of one's research dissertation it might be to
   1) Recall the hypothesis and why it was chosen as part of the study. This means that the candidate should remember the problem or need and how the hypothesis to be tested linked with the problem. Essentially, the entire study stems from the hypothesis to be tested or questions which were asked in the first chapter. These should be reviewed carefully.
   2) The researcher should recall every detail of the procedures which were used to sample, gather the data and analyze it. Precisely why were the specific subjects chosen? Why were they sampled

the way they were? Why were the research instruments used and what were the reasons for using certain designs and statistical tests as opposed to others?

3) The committee will want to know the findings of your study. Not so much the stated conclusions, but what were the implications to the field? How accurate were the findings and how well were you able to interpret responses and put them in the right perspective? What were strengths in your research as compared to possible flaws which may have influenced your findings? Be able to defend your study on several counts but be honest about weaknesses which may have occurred. These are the qualities of good research and no one is expected to conduct a perfect study. Don't appear apologetic for this signifies a lack of confidence in your study.

BIBLIOGRAPHY

Berelson, Bernard. Graduate Education in the United States. New York: McGraw-Hill Book Company, Inc., 1960.

Borg, Walter R. and Meredith D. Gall. Educational Research: An Introduction. New York: David McKay Company, Inc., (sec. edition), 1976. p. 453.

Flores, Ernest. Characteristics of Degree Preparation Programs in the Area of Community Education at Selected Universities. Unpublished Doctoral Dissertation, Arizona State University, 1973.

Graham, Robert H. The Walden University External Doctorate. Phi Delta Kappan, 50, 7(March 1976), pp 474-475.

Phillips, Jr., Clifton C. New Options for the Doctorate, Tempe, Arizona: The Ben Franklin Press, 1976.

Sax, Gilbert. Foundations of Educational Research. Englewood Cliffs, N.J.: Prentice Hall, Inc., 1979.

Schwitzer, George K. The Doctorate: A Handbook. Springfield, Illinois: Charles C. Thomas Publisher, 1965.

Tuckman, Bruce W. Conducting Educational Research. New York: Harcourt Bruce, Jovanovich, Inc., 1972.

Van Dalen, Deobold B. Understanding Educational Research. New York: McGraw-Hill Book Company, 1979.